

R E M A R K S

An Office Action was mailed November 8, 2004.

Applicant wishes to thank the Examiner for noting that a new oath/declaration and that the priority application are needed. These will be submitted under separate cover.

Drawing Figs. 1-6 have been labeled as "Prior Art". Accordingly, the Examiner is respectfully requested to withdraw the objection.

Claims 2 and 6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The present invention includes two beveled surfaces 38 and 39 that act as guide surface when placing the outer-race-like clutch section 25 over the roller 26. Each surface has width of the bevel, W_{38} and W_{39} . Please see the specification at pg. 24, line 9 et al., Fig. 10, and description on pg. 35 et al. As taught in the specification at pgs. 36 and 37 and as now made clear by amending claims 2 and 6, the total of amount of the width of the beveled surface is controlled by the relations between the rollers 26 and the outer clutch race 25, which defines an overlap δ (delta). Please see Fig. 11.

Claims 1-7 are pending. Claims 1, 3 and 5 are independent claims. Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Publication 2001-032911 to Okuma (Okuma) in view of U.S. Patent No. 6,116,393 to Ooitsu (Ooitsu) and U.S. Patent No. 5,722,521 to Awaji (Awaji). Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Okuma in view of Ooitsu, Awaji, and Japanese Patent Publication 08-061374 to Sunahara.

Independent claims 1 and 3 are directed to a method of assembling a pulley apparatus with a built-in roller clutch while independent claim 5 is directed at a pulley apparatus with a built-in roller clutch.

The present invention includes a retainer that has a falling-prevention means that keeps the roller bearings from falling in a radial direction with respect to the retainer during assembly the bearing.

As shown in Fig 4, known clutch retainers, also known as cages, comprise a pair of ring-shaped rim sections 29 and a plurality of column sections 30 that connect the rim sections 29. As seen in Fig. 8, unlike the prior art, the present invention includes a retainer 28 that has a falling-prevention means that keep rollers 26 from falling out of pockets 31 and falling radially inward with respect to retainer 28. The falling prevention means comprise essentially section on retainer 28 that limit the circumferential distance (W_{31}) between column sections 30 to be less than the diameter (D_{26}) of the roller 26. Please see specification at pg. 15, line 8-10; pg. 27, lines 4-9; and pg. 34, lines 3-13.

This inventive structure is claimed in independent structure claim 5 at limitation (d) and incorporated in independent method claims 1 and 3 at limitations d and furthermore is claimed to include "a retainer . . . having pockets to hold the rollers on the inside thereof" at limitation (c) of all independent claims. The inventive structure is not taught, suggested, or reasonable disclosed by any of the cited art alone or in any combination with other cited art.

The Examiner suggests that surface 41 of Fig. 2 of Okuma represents the inventive structure including such a falling-prevention means. Applicants have secured a translation of paragraphs 15 through 30 of Okuma from a Japanese attorney well versed in the Japanese and English

languages. A copy of the translation is enclosed for the Examiner's consideration and a further copy is under separate cover also being submitted as an IDS.

In the translation, at page 4, line 16 it is disclosed that item 41 refers to a pocket. As the translation makes clear, Fig. 2 is used to explain the built-in clutch mechanism and that the invention of Okuma discloses a pulley apparatus with a built-in clutch. Therein, Okuma discloses a squirrel cage clutch retainer 37 having rim portions 39 and column portions 40. Okuma is silent as to controlling the spacing within the column portions 40 or that such spacing is less than the diameter of the roller 36 for the purpose of preventing the roller 36 falling radially inward.

The Examiner is suggesting that Okuma teaches a falling prevention means that consists of springs 38 that bias rollers 36 against an inclined surface of column portion 40. Applicants respectfully submit that the suggested structure is not "a retainer . . . having pockets to hold the rollers on the inside thereof" as claimed by all independent claims at limitation (c) nor is it a retainer having a falling prevention means. Taking the Examiner's suggestion to an extreme, the entire bearing once assembled would be a falling prevention means with respect to the rollers since such roller could not escape the bearing. However, the applicants clearly claim a retainer having a particular structure. This structure is not equivalent to the structure suggested by the Examiner, which requires a spring placed so as to compress the rollers.

Furthermore, the structure suggested by the Examiner does not function in the same way as the present inventive structure of retainer having a falling prevention means. The inventive structure has only one substantial use and that is to hold the roller in the pocket and to prevent the roller from falling radially inward. In other words, roller 26 is placed in retainer 28 and held in the respective pocket and then pressed to one side by the springs by using a jig. Please see the specification at pg 18, lines 14 et al and at pgs. 26-27.

The structure suggested by the Examiner would cause the rollers to fall inwardly prior to the second step of biasing the rollers using the springs. This in fact what is causing, in the words of the specification, to be such troublesome work by requiring the springs to be compressed individually. Please see the specification at pg 26, line 20 et al. The present inventive structure or an equivalent clearly is not disclosed, taught, suggested by the cited references. Accordingly, the Examiner is respectfully requested to withdraw the rejection.

Furthermore, the step described above of simultaneously compressing the springs is claimed by the independent method claims 1 and 3 at limitations 1(i) and 3(h). Please see the specification at pgs. 26 and 27. None of the cited art, individually or in any combination, discloses, teaches, or reasonably suggests such a step.

The Examiner has also suggested that the use of a jig as disclosed by Sunahara in combination with the structure Okuma to arrive at the step of simultaneously compressing the springs. However, since Okuma does not disclose a structure that has a retainer with a falling-prevention means, a jig of any type would not accomplish the claimed step.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



Hassan A. Shakir
Reg. No. 53,922
(212) 940.6489

CUSTOMER NUMBER 026304

Docket No.: KAM 21.049 (100799-00091)

AMENDMENTS TO THE DRAWINGS:

Formal substitute drawings, Figure 1-6 are enclosed herewith. The legend "Prior Art" have been added.